

Claims

WHAT IS CLAIMED IS:

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1. A computing system for obtaining run-time internal state data within an application program, the computing system comprising:
 - an init module for determining if the run-time internal state data is to be collected during the operation of the application program;
 - a performance code marker module for obtaining and storing the run-time internal state data for later retrieval; and
 - an uninit module for formatting and storing the obtained run-time internal state data into memory that permits retrieval after the termination of the application program;wherein
 - the init module is executed before any run-time internal state data is collected;
 - the performance code marker module is executed each time run-time internal state data is to be collected; and
 - the uninit module is executed after all run-time internal state data desired has been collected.
 2. The computing system according to claim 1, wherein the init module determines if run-time internal state data is to be collected.
 3. The computing system according to claim 2, wherein init module makes the determination that run-time internal state data is to be collected by checking for the existence of an identification key within a system registry;
 - the identification key uniquely identifies the processing modules to be used to collect, format, and store the run-time internal state data to be collected.

1 4. The computing system according to claim 3, wherein the init module further
2 makes the determination that run-time internal state data is to be collected by checking for the
3 existence of processing modules identified by the identification key within the system registry.

1 5. The computing system according to claim 2, wherein the performance code
2 marker module collects run-time internal state data only if the init module has determined that the
3 run-time internal state data is to be collected.

1 6. The computing system according to claim 5, wherein the performance code
2 marker module generates a performance data record containing the collected run-time internal
3 state data each time the performance code marker module is executed.

1 7. The computing system according to claim 6, wherein the performance code
2 marker module stores the performance data records within a data memory block within the
3 processing modules identified by an identification key within a system registry.

1 8. The computing system according to claim 7, wherein the uninit module retrieves
2 the performance data records from the data memory block for transfer to a mass storage device.

1 9. The computing system according to claim 8, wherein run-time internal state data
2 comprises benchmark timing data related to the time at which a code marker is reached during
3 the execution of the application program.

1 10. The computing system according to claim 9, run-time internal state data comprises
2 memory usage data related state of the memory used by the application program during the
3 execution of the application program.

1 11. The computing system according to claim 9, run-time internal state data comprises
2 system registry usage data related system registry keys used by the application program during
3 the execution of the application program.

1 12. The computing system according to claim 9, run-time internal state data comprises
2 open file usage data related state of the files that are currently open during the execution of the
3 application program.

1 13. A method for obtaining run-time internal state data within an application program,
2 the method comprising:

3 inserting one or more code markers into the application program at locations within the
4 application program corresponding to the point at which run-time internal state data is desired;

5 determining if run-time internal state data is to be collected at each code marker by
6 checking for the existence of processing modules identified by an identification key within a
7 system registry;

8 if run-time internal state data is to be collected at each code marker:

9 generates a performance data record containing the collected run-time internal
10 state data each time the code markers are reached;

11 storing the performance data records within a data memory block within the
12 processing modules identified by the identification key within the system registry;

13 retrieving the performance data records from the data memory block for transfer to
14 a mass storage device once all of the run-time internal state data has been collected.

1 14. The method according to claim 13, wherein run-time internal state data comprises
2 benchmark timing data related to the time at which a code marker is reached during the execution
3 of the application program.

1 15. The computing system according to claim 13, run-time internal state data
2 comprises memory usage data related state of the memory used by the application program
3 during the execution of the application program.

1 16. The computing system according to claim 13, run-time internal state data
2 comprises system registry usage data related system registry keys used by the application
3 program during the execution of the application program.

1 17. The computing system according to claim 13, run-time internal state data
2 comprises open file usage data related state of the files that are currently open during the
3 execution of the application program.

1 18. A computer data product readable by a computing system and encoding a
2 computer program of instructions for executing a computer process for obtaining run-time
3 internal state data within an application program, said computer process comprising the steps of:
4 inserting one or more code markers into the application program at locations within the
5 application program corresponding to the point at which run-time internal state data is desired;
6 determining if run-time internal state data is to be collected at each code marker;
7 if run-time internal state data is to be collected at each code marker:
8 generates a performance data record containing the collected run-time internal
9 state data each time the code markers are reached;
10 storing the performance data records within a data memory block;
11 retrieving the performance data records from the data memory block for transfer to
12 a mass storage device once all of the run-time internal state data has been collected.

1 19. The computer data product according to claim 18, wherein the determining step
2 makes the determination that run-time internal state data is to be collected by checking for the
3 existence of an identification key within a system registry;

4 the identification key uniquely identifies the processing modules to be used to collect,
5 format, and store the run-time internal state data to be collected.

1 20. The computer data product according to claim 19, wherein the determining step
2 further makes the determination that run-time internal state data is to be collected by checking for
3 the existence of processing modules identified by the identification key within the system
4 registry.

1 21. The computer data product according to claim 19, wherein the data memory block
2 is within the processing modules identified by the identification key within the system registry.

1 22. The computer data product according to claim 19 wherein run-time internal state
2 data comprises benchmark timing data related to the time at which a code marker is reached
3 during the execution of the application program.

1 23. The computer data product according to claim 19, run-time internal state data
2 comprises memory usage data related state of the memory used by the application program
3 during the execution of the application program.

1 24. The computer data product according to claim 19, run-time internal state data
2 comprises system registry usage data related system registry keys used by the application
3 program during the execution of the application program.

1 25. The computer data product according to claim 19, run-time internal state data comprises
2 open file usage data related state of the files that are currently open during the execution of the
3 application program.

1 26. The computer data product according to claim 19, wherein the computer data product
2 comprises a computer readable storage medium readable by a computer upon which encoded
3 instructions used to implement the computer process are stored.

1 27. The computer data product according to claim 19, wherein the computer data product
2 comprises a propagated signal on a carrier detectable by a computing system and encoding a
3 computer program of instructions for executing the computer process.

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Patent Application
Page 29